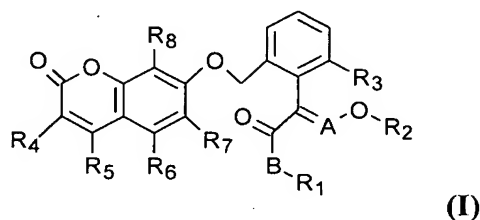


What is claimed:

1. A benzopyrone compounds, its features includes general formula (I):



wherein:

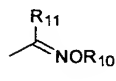
A is selected from CH or N;

B is selected from O, S or NR₉; R₉ is selected from H or C₁-C₁₂alkyl;

R₁ and R₂ are respectively selected from H, C₁-C₁₂ alkyl or C₁-C₁₂ haloalkyl;

R₃ is selected from H, C₁-C₁₂ alkyl, C₁-C₁₂ haloalkyl or C₁-C₁₂ alkoxy;

R₄, R₅, R₆, R₇, and R₈ may be the same or different, selected from H, halo, CN, NO₂, C₁-C₁₂ alkyl, C₂-C₁₂ alkenyl, C₂-C₁₂ alkynyl, C₁-C₁₂ haloalkyl, C₁-C₁₂ alkoxy, C₁-C₁₂ alkylthio, C₁-C₁₂ alkylsulfonyl, C₁-C₁₂ alkylcarbonyl, C₁-C₁₂ alkoxyC₁-C₁₂alkyl, C₁-C₁₂ alkoxycarbonyl, C₁-C₁₂ alkoxycarbonyl C₁-C₁₂ alkyl, C₁-C₁₂ haloalkoxyC₁-C₁₂ alkyl, or amino C₁-C₁₂alkyl in which amino is substituted with 0-2 C₁-C₁₂ alkyl, 0-3 substituted groups of aryl, aryloxy, arylC₁-C₁₂ alkyl, arylC₁-C₁₂ alkoxy, aryloxyC₁-C₁₂ alkyl, arylC₁-C₁₂ alkoxyC₁-C₁₂ alkyl, heteroaryl, heteroarylC₁-C₁₂ alkyl, or heteroarylC₁-C₁₂ alkoxy, the 0-3 substituted groups may be selected from halo, NO₂, C₁-C₆ alkyl, C₁-C₆ haloalkyl, C₁-C₆ alkoxy or C₁-C₆ alkoxyC₁-C₆ alkyl, and the groups having general formula as follows:



wherein: R₁₀ and R₁₁ are selected from H, C₁-C₁₂ alkyl, aryl or aryl C₁-C₁₂ alkyl; when R₃, R₄, R₅, R₆, R₇, and R₈ are all H, B is not NR₉, and its stereoisomer.

2. The benzopyrone compound according to the claim 1, characterized in that wherein general formula (I):

A is selected from CH or N;

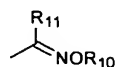
B is selected from O, S or NR₉; R₉ is selected from H or C₁-C₆ alkyl;

R₁ and R₂ are respectively selected from H, C₁-C₆ alkyl or C₁-C₆ haloalkyl;

R₃ is selected from H, C₁-C₆ alkyl, C₁-C₆ haloalkyl or C₁-C₆ alkoxy;

R₄, R₅, R₆, R₇, and R₈ may be the same or different, selected from H, halo, CN, NO₂, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ haloalkyl, C₁-C₆ alkoxy, C₁-C₆ alkylthio, C₁-C₆ alkylsulfonyl, C₁-C₆ alkylcarbonyl, C₁-C₆ alkoxyC₁-C₆ alkyl, C₁-C₆ alkoxycarbonyl, C₁-C₆ alkoxycarbonylC₁-C₆ alkyl, C₁-C₆ haloalkoxyC₁-C₆ alkyl, or amino C₁-C₆alkyl in which amino is substituted with 0-2 C₁-C₁₂ alkyl, 0-3 substituted groups of aryl, aryloxy, arylC₁-C₆ alkyl, arylC₁-C₆ alkoxy, aryloxyC₁-C₆ alkyl, arylC₁-C₆ alkoxyC₁-C₆ alkyl, heteroaryl, heteroarylC₁-C₆ alkyl, heteroarylC₁-C₆ alkoxy, the 0-3 substituted groups may be selected from halo, NO₂, C₁-C₂

alkyl, C₁-C₂ haloalkyl, C₁-C₂ alkoxy or C₁-C₂ alkoxyC₁-C₂ alkyl, and groups having formula as follows:



wherein: R₁₀ and R₁₁ are respectively selected from H, C₁-C₆ alkyl, aryl or arylC₁-C₆ alkyl; when R₃, R₄, R₅, R₆, R₇, R₈ are all H, B is not NR₉.

3. The benzopyrone compound according to the claim 2, characterized in that wherein general formula (I):

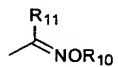
A is selected from CH or N;

B is selected from O or NH;

R₁ and R₂ are respectively selected from methyl;

R₃ is selected from H or methyl;

R₄, R₅, R₆, R₇, and R₈ may be the same or different, respectively selected from H, halo, CN, NO₂, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₁-C₆ haloalkyl, C₁-C₆ alkoxy, C₁-C₆ alkylcarbonyl, C₁-C₆ alkoxyC₁-C₆ alkyl, C₁-C₆alkoxycarbonyl, C₁-C₆ alkoxyC₁-C₃alkyl, C₁-C₃ haloalkoxyC₁-C₃ alkyl, or amino C₁-C₃alkyl in which amino is substituted with 0-2 C₁-C₃ alkyl, phenyl, phenoxy, phenyl C₁-C₂ alkyl, phenylC₁-C₂ alkoxy, phenoxy C₁-C₂ alkyl, phenylmethyl, phenylmethoxyl, or phenylmethoxy C₁-C₂ alkyl substituted with 0-2 halo, NO₂, C₁-C₂ alkyl, C₁-C₂ haloalkyl, C₁-C₂ alkoxy or C₁-C₂ alkoxyC₁-C₂ alkyl, and the substituted group having general formula as follows:



wherein: R₁₀ and R₁₁ are respectively selected from H or C₁-C₆ alkyl; when R₃, R₄, R₅, R₆, R₇, and R₈ are all H, B is not NH.

4. The benzopyrone compound according to the claim 3, characterized in that wherein general formula (I):

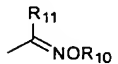
A is selected from CH or N;

B is selected from O or NH;

R₁ and R₂ are selected from methyl;

R₃ is selected from H or methyl;

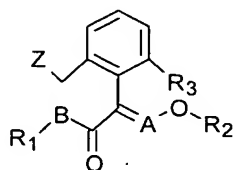
R₄, R₅, R₆, R₇, and R₈ may be the same or different, respectively selected from H, Cl, Br, F, CN, C₁-C₆ alkyl, C₁-C₆ haloalkyl, C₁-C₆ alkylcarbonyl, C₁-C₆ alkoxy, C₁-C₆ alkoxyC₁-C₃ alkyl, C₁-C₃ haloalkoxyC₁-C₃ alkyl, amino C₁-C₃alkyl in which amino is substituted with 0-2 C₁-C₃ alkyl, phenyl, phenoxy, phenylmethyl, phenylmethoxyl, substituted with 0-2 halo, NO₂, C₁-C₂ alkyl, C₁-C₂ haloalkyl, C₁-C₂ alkoxy or C₁-C₂ alkoxyC₁-C₂ alkyl, and the substituted groups having general formula as follows:



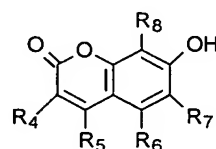
wherein: R_{10} and R_{11} are selected from methyl; when $R_3, R_4, R_5, R_6, R_7, R_8$ are all H, B is not NH.

5. A preparation method of benzopyrone compounds, characterized in that:

The compound of general formula (I) is prepared by reaction of Benzylhalide having general formula (II) with 7-OH-benzopyrone compounds having general formula (III) at the present of base:



II



III

wherein:

Z is leaving group selected from Cl or Br;

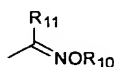
A is selected from CH or N;

B is selected from O, S or NR_9 ; R_9 is selected from H or C_1-C_{12} alkyl;

R_1 and R_2 are respectively selected from H, C_1-C_{12} alkyl or C_1-C_{12} haloalkyl;

R_3 is selected from H, C_1-C_{12} alkyl, C_1-C_{12} haloalkyl or C_1-C_{12} alkoxy;

$R_4, R_5, R_6, R_7,$ and R_8 may be the same or different, respectively selected from H, halo, CN, NO_2 , C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_2-C_{12} alkynyl, C_1-C_{12} haloalkyl, C_1-C_{12} alkoxy, C_1-C_{12} alkylthio, C_1-C_{12} alkylsulfonyl, C_1-C_{12} alkylcarbonyl, C_1-C_{12} alkoxy C_1-C_{12} alkyl, C_1-C_{12} alkoxycarbonyl, C_1-C_{12} alkoxycarbonyl C_1-C_{12} alkyl, C_1-C_{12} haloalkoxy C_1-C_{12} alkyl, or amino C_1-C_{12} alkyl in which amino is substituted with 0-2 C_1-C_{12} alkyl; 0-3 substituted groups of aryl, aryloxy, aryl C_1-C_{12} alkyl, aryl C_1-C_{12} alkoxy, aryloxy C_1-C_{12} alkyl, aryl C_1-C_{12} alkoxyl C_1-C_{12} alkyl, heteroaryl, heteroaryl C_1-C_{12} alkyl, or heteroaryl C_1-C_{12} alkoxyl, the 0-3 substituted groups may be selected from halo, NO_2 , C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy or C_1-C_6 alkoxy C_1-C_6 alkyl, and the groups having general formula as follows:



wherein: R_{10} and R_{11} are selected from H, C_1-C_{12} alkyl, aryl or aryl C_1-C_{12} alkyl; when $R_3, R_4, R_5, R_6, R_7,$ and R_8 are all H, B is not NR_9 .

6, According to the claim 1, application of the benzopyrone compounds for controlling insects in plants.

7, According to the claim 1, application of the benzopyrone compounds for controlling fungi in plants.

8, A composition of fungicides and insecticides comprises the compound of the claim 1 as an active ingredient, wherein the weight percentage of the active ingredient in the composition is from 0.1% to 99%.